

REMARKS

Applicants have carefully considered this Application in connection with the Examiner's Action, and respectfully request reconsideration of this Application in view of the above Amendment and the following remarks.

Applicants have amended Claims 1 – 4 to specify that the carbon nanotubes are produced through the HiPco (High Partial Pressure of CO) process and have greater than 90% purity. Support for this amendment can be found in the specification at Paragraphs 13 and 41. Paragraph 41 states that “SWNTs used in one embodiment of the present invention were produced via the HiPco (High Partial Pressure of CO) process.” Also, “[i]n order to be of any practical or commercial use, nanotubes must be produced with high levels of purity in large quantities. The HiPco process has shown some promise of being scaled up for large scale production and can also produce nanotubes that are > 90% pure.”

Pending in this application are Claims 1 – 4, 6 – 7, 9 – 11, and 39 – 53.

I. Rejections Under 35 U.S.C. §103(a)

Claims 1-4, 6, 7, 9-11 and 39-53 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2002/0183207 to Hjortstam, et al. (“Hjortstam”) in view of U.S. Patent No. 6,423,605 to Sklyarevich et al. (“Sklyarevich”) or U.S. Patent No. 6,203,864 to Zhang et al. (“Zhang”). The Examiner asserts that Hjortstam teaches all claim limitations except for subjecting the carbon nanotubes to microwave radiation while in an inert gas chamber or vacuum chamber. The Examiner has asserted that it would have been obvious in view of Sklyarevich or Zhang to utilize an inert gas chamber or a vacuum chamber for the microwave irradiation of the carbon nanotubes. Applicants respectfully assert that Hjortstam does not teach the subject matter of the claims as amended pertaining to the carbon nanotubes themselves.

Applicants have amended the claims to require that the carbon nanotubes be produced through the HiPco (High Partial Pressure of CO) process and have greater than 90% purity. Support for this amendment is found in Paragraphs 13 and 41. **Hjortstam does not teach these claimed carbon nanotubes because Hjortstam teaches nanotubes that contain impurities in the**

form of dopants and intercalants. See Hjortstam, Paragraph 22 and Claim 1. Hjortstam is concerned with increasing the electric conductivity of the carbon nanotubes by adding these impurities. See Hjortstam, Paragraph 19. Hjortstam teaches that it is desirable to add charge-transfer agents in the form of dopants and intercalants. See Hjortstam, Paragraph 22. Thus, Hjortstam does not teach the claimed carbon nanotubes, which must be at least 90% pure and prepared according to a method that promotes high levels of purity.

A person of skill in the art interested in carbon nanotubes having gases absorbed or adsorbed that is also at least 90% pure would never look to the teachings of Hjortstam and consider them applicable. Hjortstam is concerned with adding impurities to carbon nanotubes in order to increase their electric conductivity. **Hjortstam never teaches or suggests the use of carbon nanotubes that are of very high purity because that would defeat the whole purpose of Hjortstam's invention.** Thus, the claimed carbon nanotubes are clearly not obvious based on the teachings of Hjortstam. Considering the fact that Hjortstam does not teach the carbon nanotubes, the teachings of Sklyarevich and Zhang are irrelevant.

For these reasons, the pending claims are patentable over Hjorstam in view of Sklyarevich or Zhang.

II. Conclusion

Applicants respectfully submit that, in light of the foregoing comments, Claims 1 – 4, 6 – 7, 9 – 11, and 39 – 53 are in condition for allowance. A Notice of Allowance is therefore requested.

If the Examiner has any other matters which pertain to this Application, the Examiner is encouraged to contact the undersigned to resolve these matters by Examiner's Amendment where possible.

Respectfully submitted,


T. Ling Chwang
Reg. No. 33,590
Jackson Walker L.L.P.
901 Main Street, Suite 6000
Dallas, Texas 75202
Tel: (214) 953-5959
Fax: (214) 661-6870

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